

**PLANAR GEOMETRY BURIED JUNCTION INFRARED
DETECTOR AND FOCAL PLANE ARRAY**

ABSTRACT OF THE DISCLOSURE

The described embodiments of the present invention include a method for forming a radiation detector, including the steps of: forming a radiation absorption layer on a substrate; forming a wider bandgap layer on the radiation absorption layer; forming a passivation layer on the wider bandgap layer; forming a doping layer on the passivation layer; patterning the doping layer; driving dopant from the patterned doping layer into the junction layer and the radiation absorption layer to form a doped region; patterning the passivation layer to expose the doped region; and forming an electrical contact to the doped region.

Another described embodiment of the present invention is a radiation detector. This embodiment includes a radiation absorption layer formed on a substrate and a wider bandgap layer formed on the radiation absorption layer. This embodiment further includes a passivation layer formed on the junction layer; a patterned doping layer formed on the passivation layer and a doped region formed by driving dopant from the patterned doping layer into the junction layer and the radiation absorption layer and an electrical contact formed through a via in the passivation layer to provide electrical contact with the doped region.